

Chemistry 6942: Advanced Organic 2

T,Th 5:00-6:15 pm WB 6029

Instructor: Professor Douglas T Genna
Office: 5009 Ward Beecher
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“Asking a question may lead to a temporary embarrassment, but not asking the question will lead to a permanent embarrassment”

General

This course is a survey focusing on modern organic chemistry with a focus on the rather “new” field (~20 years) of organocatalysis. Much of organocatalysis is focused on installing and controlling chiral centers. We will take a holistic view at classical non-catalytic ways to install such centers (chiral auxiliaries) and then enter in the study of the catalytic reactions. Topics will include chiral amine (enamine and iminium catalysis), *N*-heterocyclic carbene (NHC) catalysis, H-bonding catalysis, and time permitting Frustrated Lewis Pairs and Lewis Base Catalysis.

There is no textbook for this course, but there will be assigned readings from the primary literature. These readings, whether discussed in detail in class will be fair game for any exams or homework assignments.

Grades

The course will be out of a total of 700 points.

Exam 1 – 100 pts (2/13/20)

Exam 2 – 100 pts (3/17/20)

Exam 3 – 100 pts (4/30/20)

Literature Presentations – 200 pts

Homework – 100 pts

Participation – 100 pts

Participation: This is a graduate course, so I expect participation from the class. If you come prepared to class (having read the assigned readings), ask and answer questions, participate in discussions then you will receive the max 100 points. This is an easy 100 points don't waste them.

Exams: There will be three in class exams on the above dates and they will be pertinent to the material that we are currently discussing in class. As we get closer to exams more information will be provided.

Homework will be assigned on a given Thursday and be due the following Tuesday. There will be five assignments each worth 20 pts.

	Assigned	Due
HW 1	1/23/20	1/28/20
HW 2	2/6/20	2/11/20
HW 3	2/27/20	3/3/20
HW 4	3/24/20	3/31/20
HW 5	4/16/20	4/21/20

Literature Presentations:

During the semester four classes will be devoted to power point presentations by students concerning a recent literature article. It is the student's responsibility to pick an article that 1) has been published within the last calendar year and 2) is relevant to the current course material and have me approve it no later than the Thursday before the presentation. Each student will be responsible for giving 4 of these presentations throughout the semester (50 points each). More than one person cannot present on the same article, so the articles will be first-come first-served, so the earlier you get your article to me, the earlier you can reserve it.

Each presentation should be 15-20 minutes plus time for questions. These presentations should include:

- 1) Relevant background information/historical context.
- 2) A discussion on why this particular paper/reaction is important
- 3) The highlights and findings of the paper (substrate scope, reaction shortcomings)
- 4) Reaction mechanism, if not provided be prepared to perhaps offer one if applicable
 - a. Do they perform any mechanistic studies?
- 5) Are there any failings in the paper? Are there conclusions accurate?

Remember your classmates will not have seen or read your paper, so it is up to you to present it clearly and accurately.

You are not allowed to copy and paste schemes, you have access to chemdraw, so redraw them yourself. At the beginning of your presentation you must also hand me a printed copy of your slides, failure to do so will give you a zero for the slides portion of the grade.

The first presentations I will be highly critical of style and presentation, but will be lenient in how I grade. If I do not see improvements in areas that we have discussed in future presentations then you will lose points.

Each presentation will be graded with the following rubric:

Slides (layout, aesthetics): 20 points

Oral Communication: 20 points

Questions: 10 points

Presentation Schedule:

Assignment	Date
Presentation 1A	February 20
Presentation 1B	February 27
Presentation 2A	March 5
Presentation 2B	March 19
Presentation 3A	April 2
Presentation 3B	April 9
Presentation 4A	April 16
Presentation 4B	April 23

Group A: Wyatt and Moffat

Group B: Angela and Morgan

Mandatory Statement of Non-Discrimination from the University:

Youngstown State University does not discriminate on the basis of race, color, national origin, sex, sexual orientation, gender identity and/or expression, disability, age, religion or veteran/military status in its programs or activities. Please visit www.yzu.edu/ada-accessibility for contact information for persons designated to handle questions about this policy.”

Statement for students with disabilities:

In accordance with University procedures, if you have a documented disability and require accommodations to obtain equal access in this course; please contact me privately to discuss your specific needs. You must be registered with the Center for Student Progress Disability Services, located at 36 West Wood Street, and provide a letter of accommodation to coordinate reasonable accommodations. You can reach CSP Disability Services at 330-941-1372.

Academic Misconduct:

As outlined in *The Student Code of Conduct*, all forms of academic dishonesty are prohibited at Youngstown State. This includes plagiarism, the unauthorized use of tools or notes in taking tests or completing assignments, fabrication of data or information used for an assignment, working with others without permission from the instructor, and more. A student who is believed to have violated the academic integrity policy will meet with the instructor to discuss the allegations. The student may accept responsibility for the violation and any sanctions selected by the instructor, or they have the right to ask for a hearing before a hearing panel. The full Academic Integrity policy can be found in Article III. 1. of *The Student Code of Conduct*, while further information on University procedures for alleged academic integrity violations can be found in Article V.

If you are caught cheating, you will at least be given an F grade on that particular assignment and perhaps for the entire course. Do not jeopardize your future by cheating.